THAT WHICH IS CLAIMED:

1. A method for type of service classification of a communication request for an application executing on a server, the method comprising the steps of:

   providing an application plug-in associated with the application in an operating system kernel of the server;

   wherein the application plug-in performs the following steps:

   receiving the communication request;

   obtaining application level information from the received communication request;

   assigning a type of service classification to the received communication request based on the obtained application level information; and

   providing the assigned type of service classification information for the communication request to a process executing on the server for processing communications from the server responsive to the communication request.

2. The method of Claim 1 wherein the communication request is a TCP/IP protocol communication and wherein the step of obtaining application level information from the received communication request comprises the step of obtaining level 5 or above information from the received communication request.

3. The method of Claim 2 wherein the step of providing the assigned type of service classification information for the communication request to a process executing on the server comprises the step of providing the assigned type of service classification information

for the communication request to a TCP/IP kernel executing on the server.

4. The method of Claim 3 wherein the step of providing the assigned type of service classification information for the communication request to a TCP/IP kernel further comprises the step of providing a source IP address, a destination IP address and a TCP/IP port number associated with the communication request to the TCP/IP kernel as an associated identification for the assigned type of service and wherein the method further comprises the step performed by the TCP/IP kernel of associating the assigned type of service with a plurality of communications from the server responsive to the received communication request based on the provided source IP address, destination IP address and TCP/IP port number.

5. The method of Claim 4 further comprising the step of associating the assigned type of service classification with a new thread instance initiated on the server based on the obtained application level information.

6. The method of Claim 5 wherein the step of associating the assigned type of service classification with a new thread instance initiated on the server based on the obtained application level information further comprises the step of associating the assigned type of service classification across a sockets API for associated connections based on the obtained application level information.

7. The method of Claim 2 wherein the step of assigning a type of service classification further

comprises the step of assigning the type of service classification based on workload management information associated with the server.

5 8. The method of Claim 7 further comprising the steps of:

providing information associated with the received communication to a workload management process executing on the server; and

10 receiving the workload management information from the workload management process.

9. The method of Claim 7 wherein the assigned type of service classification assigns at least one of

15 a central processing unit (CPU) priority allocation, a memory allocation or an input/output (I/O) bandwidth allocation to the received communication request.

10. The method of Claim 2 further comprising the

20 step of including type of service information in communications from the server responsive to the communication request based on the assigned type of service classification, the type of service information being usable by a network communicating the

25 communications from the server for prioritization of traffic flows on the network.

11. The method of Claim 10 wherein the type of service information provides a different type of

30 service for network prioritization of communications from the server than the assigned type of service classification provides from the server for processing of the communication request.

12.   The method of Claim 11 wherein the method
further comprises the step of providing a separate
connection for communications from the server
responsive to the communication request to support the
5   different type of service for network prioritization of
communications from the server than the assigned type
of service classification provides from the server for
processing of the communication request.

10   13.   The method of Claim 2 wherein the
communication request is a web-based request and the
application is a web application.

14.   The method of Claim 13 wherein the web-based
15   request is a hypertext transport protocol (HTTP)
request and wherein the application level information
includes a universal resource locator (URL) of the HTTP
request and wherein the assigning step further
comprises the step of parsing the URL on the server to
20   make a policy based determination of the type of
service classification for the communication request.

15.   The method of Claim 14 wherein the assigned
type of service classification assigns at least one of
25   a central processing unit (CPU) priority allocation, a
memory allocation or an input/output (I/O) bandwidth
allocation to the received communication request.

16.   The method of Claim 14 wherein the step of
30   providing the assigned type of service classification
information for the communication request to a process
executing on the server comprises the step of providing
the assigned type of service classification information
for the communication request to a TCP/IP kernel
35   executing on the server and wherein the method further

comprises the step performed by the TCP/IP kernel of
associating the assigned type of service with a
plurality of communications from the server responsive
to the received communication request.

17. The method of Claim 16 further comprising the
step of including type of service information in
communications from the server responsive to the
communication request based on the assigned type of
service classification, the type of service information
being usable by a network communicating the
communications from the server for prioritization of
traffic flows on the network.

18. The method of Claim 13 wherein the
application level information includes an
identification of a user initiating the communication
request at a source device of the communication
request.

19. The method of Claim 13 wherein the
application level information is obtained from a cookie
contained in the communication request.

20. A system for type of service classification
of a communication request for an application executing
on a server, the system comprising:
a communication process executing on the server
that processes communications between the server and a
communication network associated with the communication
request based on an associated type of service
classification; and
an application plug-in process associated with the
application in an operating system kernel of the server
that obtains application level information from the

received communication request, assigns the type of service classification to the received communication request based on the application level information and provides the assigned type of service classification to

5   the communication process.

       21.   The system of Claim 20 further comprising a workload management process executing on the server that receives information about the communication

10   request from the application plug-in process and provides information related to server resources for use in allocating server resources to the communication process for use in processing communications between the server and a communication network associated with

15   the communication request based on an associated type of service classification.

      22.   A system for type of service classification of a communication request for an application executing

20   on a server, the system comprising:
      a communication process executing on the server that processes communications from the server responsive to the communication request; and
      an application plug-in associated with the

25   application in an operating system kernel of the server;
         wherein the application plug-in further comprises:
         means for receiving the communication request;
         means for obtaining application level information

30   from the received communication request;
         means for assigning a type of service classification to the received communication request based on the obtained application level information; and

means for providing the assigned type of service classification information for the communication request to the communication process.

5   23. The system of Claim 22 wherein the communication request is a TCP/IP protocol communication and wherein the means for obtaining application level information from the received communication request comprises means for obtaining

10   level 5 or above information from the received communication request.

       24. The system of Claim 23 wherein the means for providing the assigned type of service classification

15   information for the communication request to the communication process comprises means for providing the assigned type of service classification information for the communication request to a TCP/IP kernel executing on the server.

20

       25. The system of Claim 23 wherein the means for assigning a type of service classification further comprises means for assigning the type of service classification based on workload management information

25   associated with the server.

       26. The system of Claim 25 further comprising:
       means for providing information associated with the received communication to a workload management

30   process executing on the server; and
       means for receiving the workload management information from the workload management process.

       27. The system of Claim 23 further comprising

35   means for including type of service information in

communications from the server responsive to the
communication request based on the assigned type of
service classification, the type of service information
being usable by a network communicating the
5   communications from the server for prioritization of
traffic flows on the network.

28. The system of Claim 23 wherein the
communication request is a web-based request and the
10   application is a web application.

29. The system of Claim 28 wherein the web-based
request is a hypertext transport protocol (HTTP)
request and wherein the application level information
15   includes a universal resource locator (URL) of the HTTP
request and wherein the means for assigning further
comprises means for parsing the URL on the server to
make a policy based determination of the type of
service classification for the communication request.
20

30. The system of Claim 29 wherein the assigned
type of service classification assigns at least one of
a central processing unit (CPU) priority allocation, a
memory allocation or an input/output (I/O) bandwidth
25   allocation to the received communication request.

31. The system of Claim 29 wherein the means for
providing the assigned type of service classification
information for the communication request to the
30   communication process comprises means for providing the
assigned type of service classification information for
the communication request to a TCP/IP kernel executing
on the server and wherein the system further comprises
the TCP/IP kernel, wherein the TCP/IP kernel further
35   comprises means for associating the assigned type of

service with a plurality of communications from the
server responsive to the received communication
request.

5   32.   The system of Claim 31 further comprising
means for including type of service information in
communications from the server responsive to the
communication request based on the assigned type of
service classification, the type of service information
10   being usable by a network communicating the
communications from the server for prioritization of
traffic flows on the network.

          33.   A computer program product for type of
15   service classification of a communication request for
an application executing on a server, comprising:
          a computer-readable storage medium having
computer-readable program code embodied in said medium,
said computer-readable program code comprising:
20   application plug-in computer-readable program code
associated with the application for execution in an
operating system kernel of the server;
          wherein the application plug-in computer-readable
program code further comprises:
25   computer-readable program code which receives the
communication request;
          computer-readable program code which obtains
application level information from the received
communication request;
30   computer-readable program code which assigns a
type of service classification to the received
communication request based on the obtained application
level information; and
          computer-readable program code which provides the
35   assigned type of service classification information for

the communication request to a process executing on the
server for processing communications from the server
responsive to the communication request.

5   34.   The computer program product of Claim 33
wherein the communication request is a TCP/IP protocol
communication and wherein the computer-readable program
code which obtains application level information from
the received communication request comprises computer-
10   readable program code which obtains level 5 or above
information from the received communication request.

35.   The computer program product of Claim 34
wherein the computer-readable program code which
15   provides the assigned type of service classification
information for the communication request to the
communication process comprises computer-readable
program code which provides the assigned type of
service classification information for the
20   communication request to a TCP/IP kernel executing on
the server.

36.   The computer program product of Claim 34
wherein the computer-readable program code which
25   assigns a type of service classification further
comprises computer-readable program code which assigns
the type of service classification based on workload
management information associated with the server.

30   37.   The computer program product of Claim 36
further comprising:
computer-readable program code which provides
information associated with the received communication
to a workload management process executing on the
35   server; and

computer-readable program code which receives the
workload management information from the workload
management process.

5   38. The computer program product of Claim 34
further comprising computer-readable program code which
includes type of service information in communications
from the server responsive to the communication request
based on the assigned type of service classification,
10   the type of service information being usable by a
network communicating the communications from the
server for prioritization of traffic flows on the
network.

15   39. The computer program product of Claim 34
wherein the communication request is a web-based
request and the application is a web application.

40. The computer program product of Claim 39
20   wherein the web-based request is a hypertext transport
protocol (HTTP) request and wherein the application
level information includes a universal resource locator
(URL) of the HTTP request and wherein the computer-
readable program code which assigns further comprises
25   computer-readable program code which parses the URL on
the server to make a policy based determination of the
type of service classification for the communication
request.

30   41. The computer program product of Claim 40
wherein the assigned type of service classification
assigns at least one of a central processing unit (CPU)
priority allocation, a memory allocation or an
input/output (I/O) bandwidth allocation to the received
35   communication request.

42.   The computer program product of Claim 40
wherein the computer-readable program code which
provides the assigned type of service classification
information for the communication request to the
5   communication process comprises computer-readable
program code which provides the assigned type of
service classification information for the
communication request to a TCP/IP kernel executing on
the server and wherein the computer program product
10   further comprises TCP/IP kernel computer-readable
program code which associates the assigned type of
service with a plurality of communications from the
server responsive to the received communication
request.
15

43.   The computer program product of Claim 42
further comprising computer-readable program code which
includes type of service information in communications
from the server responsive to the communication request
20   based on the assigned type of service classification,
the type of service information being usable by a
network communicating the communications from the
server for prioritization of traffic flows on the
network.